

FIRE ALARM DEVICE AND WIRING LEGEND			
SYMBOL	DESCRIPTION	WIRING	NOTE
	ADDRESSABLE CONTROL MODULE	A	
	ADDRESSABLE DUCT DETECTOR WITH RELAY	AD	
	FIRE ALARM CONTROL PANEL		
	FIRE ALARM POWER SUPPLY		
	FIRE ALARM SMOKE DAMPER		
	FIRE ALARM TERMINATION CABINET		
	HEAT DETECTOR	A	
	PULL STATION	A	
	SMOKE DETECTOR	A	
	SPEAKER	C	
	STROBE ALARM LIGHT - CEILING MOUNTED	B	
	STROBE ALARM LIGHT - WALL MOUNTED	B	

360-J FIRE ALARM DRAWING INDEX	
SHEET	SHEET DESCRIPTION
360-J FA000	FIRE ALARM SYMBOLS LEGEND AND SHEET INDEX
360-J FA101	FIRE ALARM DEVICE PLAN - BLDG 360-J PHARMACY
360-J FA101A	FIRE ALARM DEVICE PLAN - BLDG 360-J OVERALL PLAN
360-J FA102	FIRE ALARM DEVICE PLAN - BLDG 360 ROOF PHARMACY
360-J FA301	FIRE ALARM REFLECTED CEILING PLAN - BLDG 360-J PHARMACY
360-J FA401	FIRE ALARM - DETAIL SHEET
360-J FA402	FIRE ALARM - DETAIL SHEET
360-J FA403	FIRE ALARM - DETAIL SHEET

APPLICABLE CODES AND STANDARDS	
<ul style="list-style-type: none"><li>• 2012 INTERNATIONAL BUILDING CODE (2010 CALIFORNIA BUILDING CODE)</li><li>• 2012 INTERNATIONAL RESIDENTIAL CODE (2010 CALIFORNIA RESIDENTIAL CODE)</li><li>• 2012 UNIFORM MECHANICAL CODE (2010 CALIFORNIA MECHANICAL CODE)</li><li>• 2012 UNIFORM PLUMBING CODE (2010 CALIFORNIA PLUMBING CODE)</li><li>• 2012 NATIONAL ELECTRICAL CODE (2010 CALIFORNIA ELECTRICAL CODE)</li><li>• 2012 INTERNATIONAL FIRE CODE (2010 CALIFORNIA FIRE CODE)</li><li>• 2012 INTERNATIONAL PROPERTY MAINTENANCE CODE</li><li>• TITLE 24 HANDICAPPED ACCESSIBILITY REGULATIONS (2009 EDITION)</li><li>• 2010 NFPA 72</li><li>• 2012 NFPA 101</li><li>• AMERICANS WITH DISABILITIES ACT (ADA)</li><li>• ARCHITECTURAL BARRIERS ACT (ABA)</li><li>• VA FIRE PROTECTION DESIGN MANUAL SIXTH EDITION - SEPTEMBER 2011</li></ul>	

SCOPE OF WORK	
OCCUPANCY TYPE: B	
SPRINKLER PROTECTION: BUILDING IS FULLY SPRINKLED	
NUMBER OF STORIES:	
1 STORY ABOVE GRADE	
PHARMACY	
APPROXIMATE AREA OF WORK: 3,000 SF	
CONSTRUCTION TYPE: IIB	
PROVIDE AND INSTALL NEW FIRE ALARM DEVICES AND POWER SUPPLIES WHICH ARE AN EXTENSION TO AND MODIFICATION OF AN EXISTING PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM AS SHOWN ON THE DRAWINGS WHICH SHALL PROVIDE:	
FIRE SPRINKLER SYSTEM MONITORING	
MANUAL FIRE ALARM BOXES	
AREA SMOKE DETECTION FOR EQUIPMENT SPACES	
DUCT SMOKE DETECTION FOR HVAC UNITS	
CONTROL OF FIRE SMOKE DAMPERS	
COMMON AREA NOTIFICATION DEVICES	
WHICH SHALL PRODUCE A SOUND LEVEL 15dB ABOVE AMBIENT SOUND LEVEL OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED 1.5M PROPRIETARY THE FLOOR IN THE OCCUPIED AREA, USING THE A-WEIGHTED SCALE (dBA).	
ALARM, TROUBLE, AND SUPERVISORY SIGNALS SHALL BE TRANSMITTED TO A PROPRIETARY SUPERVISING STATION.	

FIRE ALARM WIRE LEGEND				
DESIGNATION	No. OF CONDUCTORS	SIZE AWG	TYPE	USE
A	2	18	FRLP	SLC
B	2	12	THHN	STROBE
C	2	16	FRL*	SPEAKER
D	2	14	FPL	24VDC
E	2	18	FRL**	EIA-485
F	2	18	FPL	HVAC UNIT CONTROL
G	2	12	THHN	FSD CONTROL
H	2	14	FPL	DOOR HOLD
M	2	18	FPL	MONITOR POINT
N	2	16	FRL**	NETWORK
R	4	18	FPL	REMOTE INDICATOR
S	2	18	FPL	STROBE SYNC RISER
T	2	18	FPL	DIGITAL AUDIO

\*THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE CORRECT CABLES AND QUANTITIES OF CABLES FOR THE BRAND OF FIRE ALARM LIFE SAFETY SYSTEM THAT THEY ARE PROPOSING.  
\*\*CONFIRM MANUFACTURERS CABLE REQUIREMENTS. USE SHIELDED CABLE IF REQUIRED.

### FA LEGEND OF ABBREVIATIONS

(N)	-	NEW
(E)	-	EXISTING
(V)	-	REMOVE
(R)	-	REPLACE
(RR)	-	REMOVE AND REINSTALL
A.F.F.	-	ABOVE FINISHED FLOOR
AC	-	ABOVE CEILING
ADR	-	AREA OF REFUGE
EOLR	-	END OF LINE RESISTOR
UF	-	UNDER FLOOR
U.O.N.	-	UNLESS OTHERWISE NOTED
NAC	-	NOTIFICATION APPLIANCE CIRCUIT
SLC	-	SIGNAL LINE CIRCUIT
PIV	-	POST INDICATOR VALVE
OS&Y	-	OUTSIDE STEM AND YOKE VALVE
N.T.S.	-	NOT TO SCALE
DOV	-	DOUBLE CHECK VALVE
PB	-	PULL BOX
DPS	-	DAMPER POSITION SWITCH

### GENERAL NOTES

- ALL REQUIREMENTS OF CONTRACT SPECIFICATIONS AND DRAWINGS APPLY.
- INSTALLATION SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE ELECTRICAL CODES.
- WIRING METHODS AND MATERIALS SHALL CONFORM WITH ALL APPLICABLE SECTIONS OF NEC ARTICLE 760.
- 120VAC INPUT POWER FOR FIRE ALARM CONTROLS SHALL BE A DEDICATED, LOCKING CIRCUIT BREAKER PROPERLY LABELED "FACP". LABEL SHALL BE RED.
- 120VAC IS NOT PERMITTED IN SAME CONDUIT WITH LOW VOLTAGE WIRING.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL FINAL CLEANING HAS BEEN COMPLETED UNLESS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- CONDUIT AND JUNCTION BOXES ARE DIAGRAMMATIC ONLY. EXACT LOCATION MAY VARY DUE TO FIELD CONDITIONS. ACTUAL INSTALLATION LOCATIONS SHALL BE DETERMINED BY THE INSTALLING CONTRACTOR.
- NOTIFICATION DEVICE CIRCUIT WIRE RUN LENGTHS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATION/VOLTAGE DROP.
- DO NOT LOCATE SMOKE DETECTORS WITHIN THREE (3) FEET OF SUPPLY AIR VENTS.
- THE FIRE ALARM SYSTEM SHALL CONFORM TO THE 2010 EDITION OF NFPA 72 AND THE 2012 EDITION OF NFPA 101.
- UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.
- A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.
- ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED FOR USE BY THE AUTHORITY HAVING JURISDICTION.
- A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES, SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLING CONTRACTOR AND GIVEN TO THE AUTHORITY HAVING JURISDICTION UPON COMPLETION OF THE INSTALLATION.
- ALL RISER WIRING SHALL BE IN CONDUIT. WALL PENETRATIONS SHALL USE APPROVED PENETRATION METHODS.
- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT AND FIELD DEVICES.
- SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT THE DESIGNER IN A TIMELY MANNER SO AS NOT TO IMPAIR THE PROJECT SCHEDULE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT WORKMAN LIKE MANNER.
- DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED TECHNICAL REPRESENTATIVE.
- THE CONTRACTOR SHALL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES THAT ARE ALTERED AS A RESULT OF THE CONTRACTORS WORK, AND ANY TIME WORK IS NOT BEING ACTIVELY PERFORMED.

### INSTALLATION NOTES

- ALL FIRE ALARM WIRING SHALL BE INSTALLED, PER NEC REQUIREMENTS.
- INSTALLATION SHALL CONFORM TO MANUFACTURER'S WIRING SPECIFICATIONS FOR OPTIMAL SYSTEM OPERATION.
- ONE CIRCUIT OF DEDICATED 120VAC POWER SHALL BE PROVIDED AT EACH ALARM PANEL LOCATION. SEE ELECTRICAL DRAWINGS FOR SPECIFIC CIRCUIT IDENTIFICATION.
- ANY NEW WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL NOT INTERMIX ANY HIGH VOLTAGE POWER WIRES (120VAC) WITH ANY SIGNAL OR CONTROL WIRES IN ANY CONDUIT.
- ALL WIRES SHALL BE CONNECTED IN A UNIFORM MANNER. TRANSPONDING OR CHANGING OF COLOR CODES SHALL NOT BE PERMITTED.
- ALL PULL AND JUNCTION BOXES SHALL BE PROVIDED WITH BLANK COVERS. OUT DOOR INSTALLED BOXES AND CONDUIT SHALL BE WEATHERPROOF TYPE.
- ALL ROUTES OF WIRING ARE DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY EXACT ROUTING.
- THE CONTRACTOR SHALL UNDERTAKE THE WORK IN ITS ENTIRETY IN ACCORDANCE WITH ITS DESIGN AND PURPOSE. ALL WORK SHALL BE CARRIED OUT IN A PROFESSIONAL MANNER WITH MAXIMUM EFFICIENCY AND EXCELLENT WORKMANSHIP.
- IT IS UNDERSTOOD THAT THE CONTRACTOR HAS READ AND UNDERSTOOD FULLY THE PLANS, SPECIFICATIONS, AND ALL RELATED DOCUMENTS ON THIS PROJECT, AND IS WELL FAMILIAR WITH SITE CONDITIONS.
- ALL CONDUIT IS 3/4-INCH MINIMUM UNLESS OTHERWISE NOTED.
- FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 (NEC), ARTICLES 760, 770, 725, AND 800 WHERE APPLICABLE.
- ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
- ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY THROUGHOUT THE FULL LENGTH OF THE WIRE/CABLE.
- MAINTAIN 40% CONDUIT FILL RATIO PER NEC REQUIREMENTS.
- CONNECT FIRE/SMOKE DAMPERS TO THE APPROPRIATE FIRE ALARM RELAY AS NOTED ON THE PLANS. REFER TO MECHANICAL DRAWINGS FOR FIRE/SMOKE DAMPER LOCATIONS.
- POWER LIMITED CIRCUITS SHALL NOT BE INSTALLED IN THE SAME CABLE OR RACEWAY WITH CLASS 2 OR CLASS 3 AUDIO CIRCUITS PER CEC 760.56(9).
- POWER LIMITED CIRCUITS SHALL BE SEPARATED FROM ELECTRIC LIGHT, POWER, CLASS 1, NON POWER LIMITED, AND MEDIUM POWERED BROADBAND COMMUNICATIONS CIRCUITS BY METAL BARRIER OR RACEWAY.
- ALL DEVICES (EXCEPT FOR NOTIFICATION DEVICES) SHALL BE FROM THE SAME MANUFACTURER AS THE FACP (NOTIFIER).

		SYSTEM OUTPUTS															
		ACTIVATE PANEL ALARM SIGNAL INDICATOR (RED LED)	ACTIVATE PANEL ALARM SIGNAL AUDIBLE (ALARM BUZZER)	ACTIVATE PANEL TROUBLE SIGNAL INDICATOR (AMBER LED)	ACTIVATE PANEL TROUBLE SIGNAL AUDIBLE (TROUBLE BUZZER)	ACTIVATE PANEL SUPERVISORY SIGNAL INDICATOR (AMBER LED)	ACTIVATE PANEL SUPERVISORY SIGNAL AUDIBLE (SUPERVISORY BUZZER)	ACTIVATE REMOTE ANNUNCIATOR ALARM SIGNAL INDICATOR (RED LED)	ACTIVATE REMOTE ANNUNCIATOR ALARM SIGNAL AUDIBLE (ALARM BUZZER)	ACTIVATE REMOTE ANNUNCIATOR TROUBLE SIGNAL INDICATOR (AMBER LED)	ACTIVATE REMOTE ANNUNCIATOR TROUBLE SIGNAL AUDIBLE (TROUBLE BUZZER)	ACTIVATE REMOTE ANNUNCIATOR SUPERVISORY SIGNAL INDICATOR (AMBER LED)	ACTIVATE REMOTE ANNUNCIATOR SUPERVISORY SIGNAL AUDIBLE (SUPERVISORY BUZZER)	INDICATE INPUT SIGNAL ON PANEL'S LCD DISPLAY	ACTIVATE PUBLIC AREA AUDIBLE NOTIFICATION DEVICES	ACTIVATE PUBLIC AREA VISUAL NOTIFICATION DEVICES (ZONE OF ALARM ONLY)	ACTIVATE FIRE SPRINKLER BELL
SYSTEM OPERATIONAL INPUT SIGNALS AND OUTPUT FUNCTIONS																	
SYSTEM INPUTS	MANUAL BOX (PULL STATION)	X	X					X	X					X	X	X	X
	AREA SMOKE DETECTOR	X	X					X	X	X				X	X	X	X
	WATERFLOW SWITCH	X	X					X	X					X	X	X	X
	VALVE TAMPER SWITCH					X	X					X	X	X			X
	SMOKE DETECTOR AT FSD	X	X					X	X					X	X	X	X
	DUCT DETECTOR AT AHU				X	X					X	X	X	X		X	X
	LOSS OF 120 VOLT POWER				X	X					X	X	X				X
	INITIATING CIRCUIT: STYLE-B (CLASS-B)				X	X					X	X	X				X
	OPEN WIRE				X	X					X	X	X				X
	* SINGLE GROUNDED WIRE				X	X					X	X	X				X
	SHORTED WIRE				X	X					X	X	X				X
	NOTIFICATION CIRCUIT: STYLE-Y (CLASS-B)		X	X				X	X					X	X		X
	OPEN WIRE				X	X					X	X	X				X
	* SINGLE GROUNDED WIRE				X	X					X	X	X				X
	SHORTED WIRE				X	X					X	X	X				X
	SIGNALING LINE CIRCUIT: STYLE-4 (CLASS-B)													X			X
	OPEN WIRE				X	X					X	X	X				X
	* SINGLE GROUNDED WIRE				X	X					X	X	X				X
	WIRE TO WIRE SHORT AND OPEN				X	X					X	X	X				X
	WIRE TO WIRE SHORT AND GROUND				X	X					X	X	X				X
	OPEN AND GROUND				X	X					X	X	X				X
	LOSS OF CARRIER				X	X					X	X	X				X
	FIRE ALARM SYSTEM LOW BATTERY				X	X					X	X	X				X

\* = ALARM RECEIPT CAPABILITY DURING ABNORMAL CONDITION IS REQUIRED

### CONSULTANTS:

### ARCHITECT

**POLYTECH ASSOCIATES INC.**  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

Drawing Title  
FIRE ALARM SYMBOLS LEGEND AND SHEET INDEX

Approved: Project Director

Project Title  
POST TRAUMATIC STRESS DIAGNOSIS (PTSD)  
EXPANSION & RENOVATION

Location  
795 WILLOW ROAD, MENLO PARK, CA

Date  
07/30/2015

Checked  
AW

Drawn  
TW

Project Number  
640-235003

Building Number  
BUILDING 334 & 360

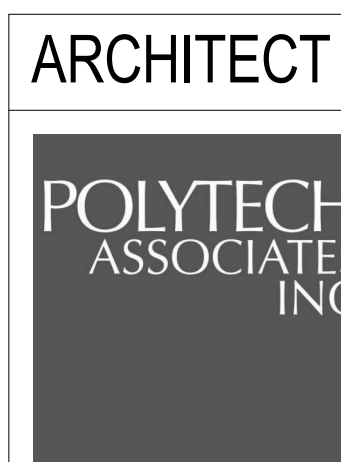
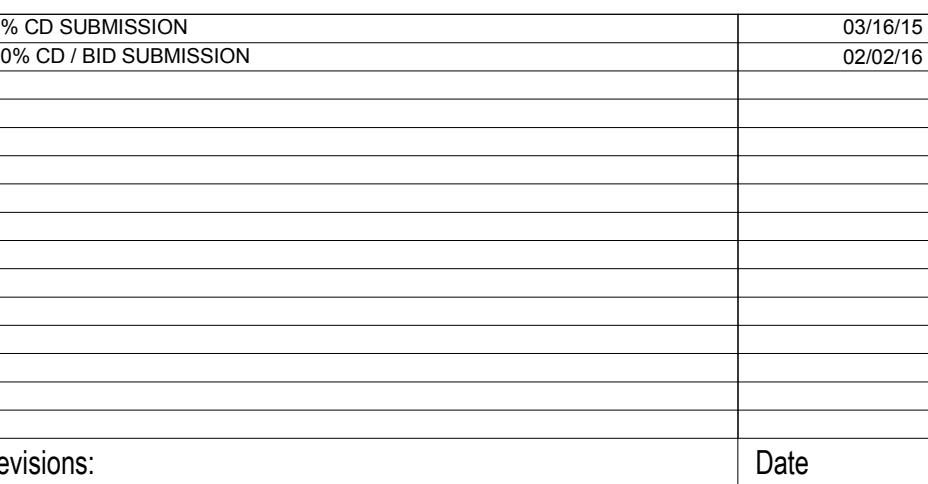
Drawing Number

360-J FA000

Office of  
Construction  
and Facilities  
Management



100% CD / BID SUBMISSION  
FEBRUARY 2, 2016



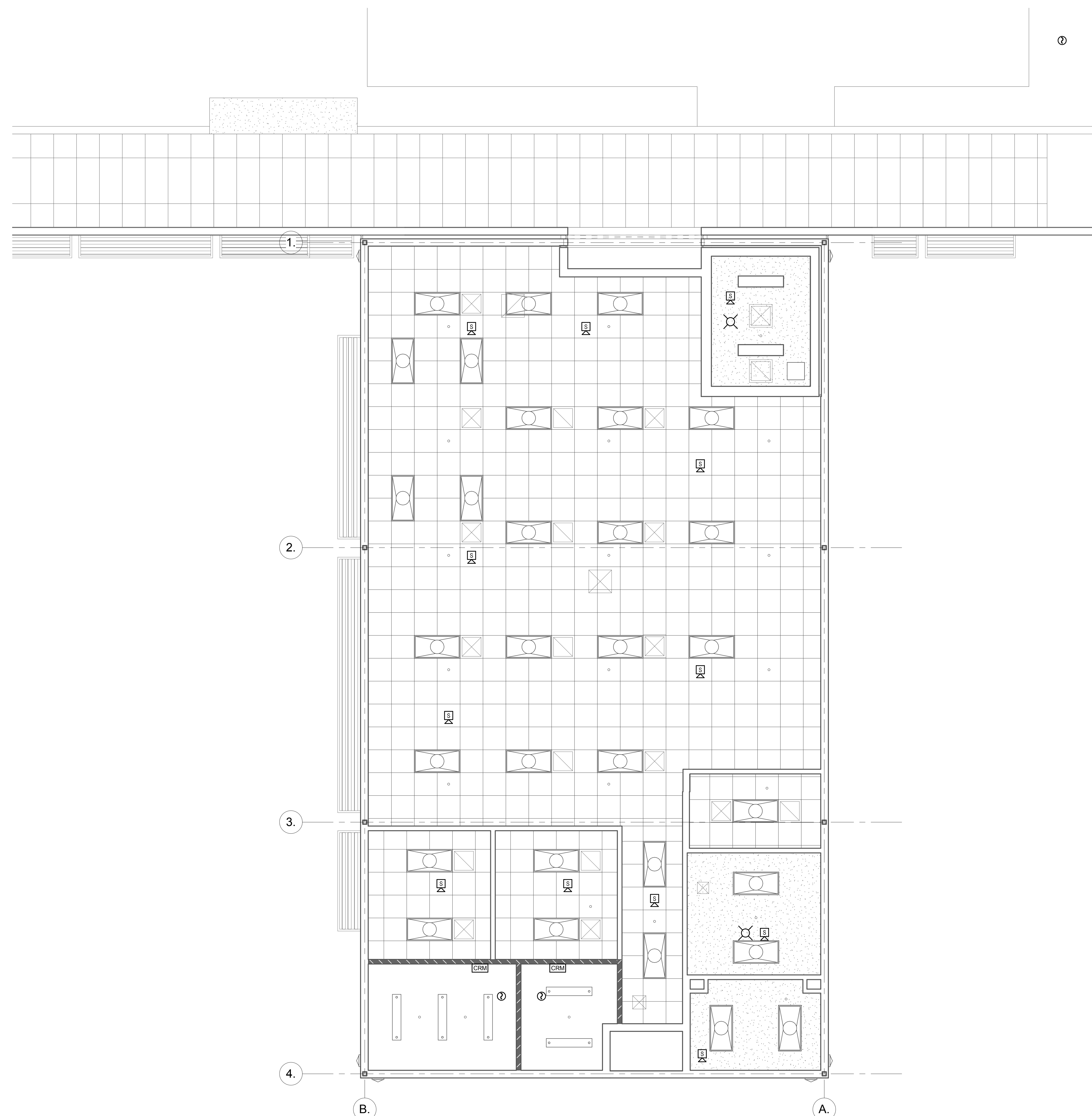
Department of  
Veterans Affairs

- ① HOMERUN 1-1/4" CONDUIT TO EXISTING FIRE ALARM CONTROL PANEL LOCATED IN MAIN ELECTRICAL ROOM C114.REFER TO SHEET 360-1 FA101A FOR ADDITIONAL INFORMATION.
- ② TERMINATE NEW CONDUITS TO EXISTING FIRE ALARM TERMINAL CABINET. PROVIDE TERMINAL STRIPS AS REQUIRED FOR WIRING TERMINATIONS.
- ③ EXISITNG SMOKE DETECTOR. NO WORK REQUIRED. SHOWN FOR REFERENCE ONLY.
- ④ PROVIDE FIRE ALARM POWER SUPPLY AND ADDRESSABLE CONTROL MODULE FOR PHARMACY VISUAL NOTIFICATION DEVICES.
- ⑤ SMOKE DETECTOR SHALL BE LOCATED WITH 5' OF THE FIRE SMOKE DAMPER.
- ⑥ PROVIDE FLEXIBLE FITTING FOR EXPANSION JOINT AT THIS LOCATION.









1 FA REFLECTED CEILING DEVICE PLAN - BLDG 360-J PHARMACY  
1/4" = 1'-0"

100% CD / BID SUBMISSION  
FEBRUARY 2, 2016

FEBRUARY 2, 2016

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CONSULTANTS:



ARCHITECT

POLYTECH  
ASSOCIATE  
INC.

**POLYTECH ASSOCIATES INC.**  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

	Drawing Title
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FIRE ALARM REFLECTED CEILING PLAN - BLDG 360-J PHARMACY

Approved: Project Director

Project Title

## POST TRAUMATIC STRESS DIAGNOSIS (PTSD) EXPANSION & RENOVATION

	Location

795 WILLOW ROAD, MENLO PARK, CA

Date  
07/30/20

Checked
AW

Drawn	
TW	

Project Number	640-Z35003
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Building Number

BUILDING 334 &amp; 360

	Drawing Number
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360-J FA301





1. INTERPOSING RELAY SHOWN IN ENERGIZED STATE, RELAY TERMINAL DESIGNATIONS REFLECT CONTACTS IN A DE-ENERGIZED STATE.

CONSULTANTS:

360-J FA401

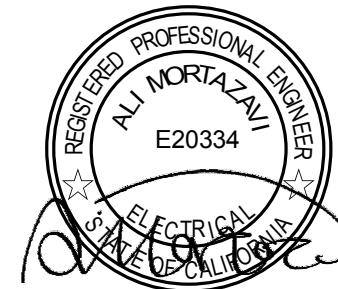
 Department of  
Veterans Affairs

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CONSULTANTS:



ARCHITECT

**POLYTECH  
ASSOCIATES  
INC.**

POLYTECH ASSOCIATES INC.  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

Drawing Title  
FIRE ALARM - DETAIL SHEET

Approved: Project Director

**Project Title**  
POST TRAUMATIC STRESS DIAGNOSIS (PTSD)  
EXPANSION & RENOVATION

Location	795 WILLOW ROAD, MENLO PARK, CA
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Date  
07/30/2015

Checked  
AW

Draw  
TW

Project Number  
640-Z35003

Building Number  
BUILDING 334 & 360

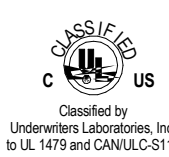
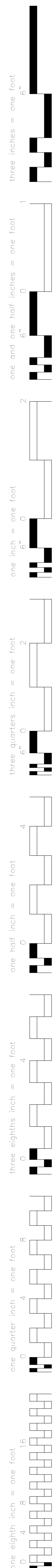
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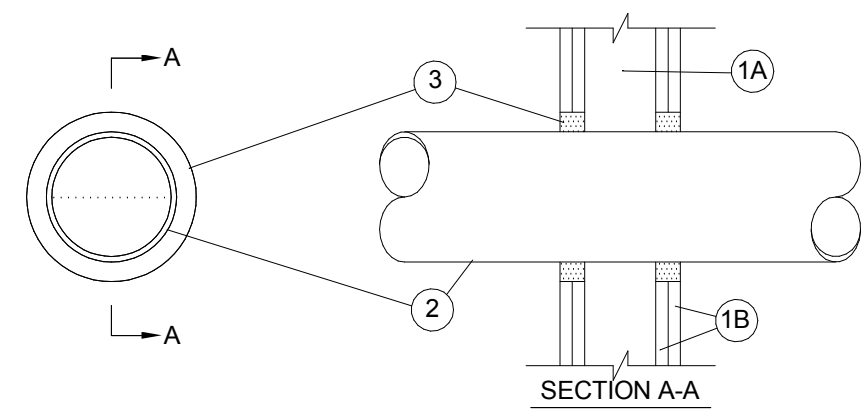
Office of  
Construction  
and Facilities  
Management



100% CD / BID SUBMISSION  
FEBRUARY 2, 2016



System No. W-L-1054  
F Ratings - 1 and 2 Hr (See Items 1 and 3)  
T Rating - 0 Hr  
L Rating At Ambient - Less Than 1 CFM/Sq Ft  
L Rating At 400 F - 4 CFM/Sq Ft



1. **Wall Assembly** – The 1 or 2 ft fire-rated gypsum wallboard/steel wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Stud** – Studs shall be 2x4 or 2x6 wood studs or steel channel studs. Wood studs to consist of nominal 2 by 4 in. lumber spaced 16 in. On C-Steel studs to be min 2 1/2 in. wide and spaced max 24 in. On C-Steel when studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel wallboard installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the steel shall be 4 to 6 in. wide and 12 in. high. On U-Steel studs, a 1/2 in. thick U-Steel channel or U-Steel stud item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
  - B. **Gypsum Board** – 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers and fastening shall be as specified in the individual U300 or U400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly.
  - C. **Through-Penetrants** – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The pipe, conduit or tubing shall be installed in the individual U300 or U400 Series Designs in the UL Fire Resistance Directory or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
    - A. **Steel Pipe** – Nom 30 in diam. (or smaller) Schedule 10 (or heavier) steel pipe.
    - B. **Steel Pipe** – Nom 30 in diam. (or smaller) cast or ductile iron pipe.
    - C. **Conduit** – Nom 4 in diam. (or smaller) steel electrical metallic tubing or 6 in. diam. steel conduit.
    - D. **Copper Tubing** – Nom 6 in. diam. (or smaller) Type L electrical metallic tubing (or heavier) copper tubing.
    - E. **Copper Pipe** – Nom 6 in. diam. (or smaller) rigid pipe.
  - D. **Fill, Void or Cavity Material** – Sealant – Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
2. **MULTI CONSTRUCTION CHEMICALS, DIV OF MILIT INC. – FS-ONE** –  
\*Bearing the UL Classification Mark.

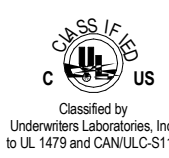


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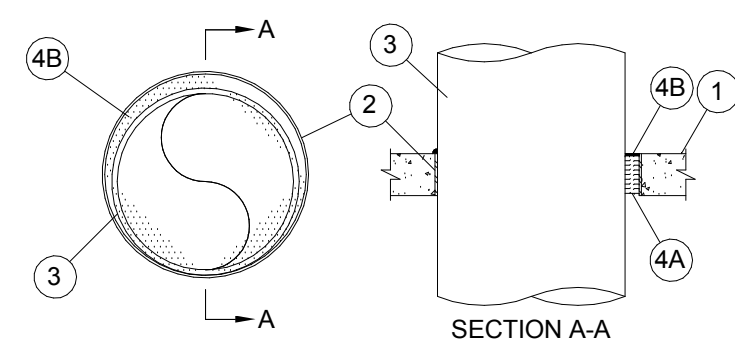
HILTI W-L-1054 FIRE STOP DETAIL

NTS

B



F Ratings - 1 and 2 Hr (See Items 1 and 3)  
T Rating - 0 Hr  
L Rating At Ambient - Less Than 1 CFM/Sq Ft  
L Rating At 400 F - 4 CFM/Sq Ft



1. **Floor or Wall Assembly** – Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 psi) concrete. Wall may also be constructed of any UL Classified Concrete Block. Max dim of opening is 32 in.
2. **Metallic Sleeve** – (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Weld with floor or wall surfaces or extend 1/2 in. above floor or beyond both walls of sleeve.
3. **Sheet Metal Sleeve** – (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a max of 2 in. larger than the hole to be protected. Sleeve may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
4. **Sheet Metal Sleeve** – (Optional) Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a max of 2 in. larger than the hole to be protected. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
5. **Penetrant** – If sleeve or tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall.
6. **Conduit** – The following types and sizes of metallic penetrant:
- A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe
  - B. Iron Pipe – Nom 30 in. diam (or smaller) cast or ductile iron pipe
  - C. Copper Pipe – Nom 6 in. diam (or smaller) Regular wall thickness copper pipe
  - D. Copper Tubing – Nom 6 in. diam (or smaller) Type K (or heavier) copper tubing
  - E. Conduit – Nom 6 in. diam (or smaller) steel conduit
  - F. Conduit – Nom 6 in. diam (or smaller) steel electric metallic tubing (EMT)
7. **Firestop System** – The firestop system shall consist of the following:
- A. Packing Material – Min 4 in. thickness of min 4 pcd mineral wool batt insulation firmly packed into opening as a permanent fire blocking material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
  - B. Fill, Void or Cavity Material – Sealant – Min 1/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or wall or wall surface, or flush with bottom of floor or wall.
  - C. Sealant or Sealant and Sealant Reinforcing Mesh – Sealant or sealant and sealant reinforcing mesh shall be applied at the concrete or sleeve/pier interface on the top surface of floor and on both surfaces of wall.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. FS-One Sealant
- <sup>a</sup> Bearing the UL Classification Mark



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December 4, 2002

HILTI W-L-1054 FIRE STOP DETAIL

NTS

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[illegible]

CONSULTANTS:



## ARCHITECT

**POLYTECH ASSOCIATES INC.**  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

Drawing Title  
FIRE ALARM - DETAIL SHEET

Approved: Project Director

**Project Title**  
POST TRAUMATIC STRESS DIAGNOSIS (PTSD)  
EXPANSION & RENOVATION

Location
795 WILLOW ROAD, MENLO PARK, CA

Date  
07/30/2015

Checked  
AW

TW

Project Number  
640-Z35003

Building Number  
BUILDING 334 & 360

Drawing Number

360-J FA403

100% CD / BID SUBMISSION  
FEBRUARY 2, 2016

Office of  
Construction  
and Facilities  
Management

